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Environmental Compliance Research for ONR 312OA At-Sea Experiments

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LONG-TERM GOALS

The long-term goal of this effort is to facilitate ONR 321 Ocean Acoustics Program at-sea experiments through the preparation of scientifically rigorous environmental compliance documentation.

OBJECTIVES

The objective of this effort is to conduct analyses of the potential impacts of ocean acoustics tests and to prepare environmental documents compliant with applicable Federal and State statutes and DoD/DoN regulations and policies.

APPROACH

For each at-sea underwater active acoustic experiment under ONR 321OA sponsorship, a team of marine biologists, acousticians, and analysts study proposed scenarios, acoustic source properties, forecast acoustic conditions, and marine species populations and vulnerabilities to determine potential impacts and develop mitigation measures.

WORK COMPLETED

For each experiment, the zones of influence for potential acoustic impacts on various marine species were calculated and the estimated number of animals potentially impacted was calculated. By working closely with planners, environmental analysts were able to influence the design of these experiments so that their objectives could be met while potential effects on the marine environment were minimized.

RESULTS

Analysis begun in FY05 was completed and approval documents were signed for the Makai Experiment at the Shallow Water Training Range (SWTR) of the Pacific Missile Range Facility (PMRF) on the western coast of the island of Kauai in Hawaii and for the BEAMER Underwater Observatory Experiment to be conducted at University of Rhode Island (URI) Graduate School of Oceanography (GSO). Scientific analysis was conducted, environmental documentation was completed, and approval was obtained for the SW06 Experiment that was conducted from five research vessels during July, August and September of 2006 off the New Jersey coast. Completion of these documents and their subsequent approval permitted the execution of the sea tests.

IMPACT/APPLICATIONS

The analyses conducted under this effort were required by U.S. law and by DoD, DoN, OPNAV, and ONR regulations.

TRANSITIONS

N/A this research enables experimentation and testing by other projects

RELATED PROJECTS

Environmental compliance documents were prepared in support of the BEAMER Experiment, the Makai Experiment, and the SW06 Experiment. These experiments supported multiple Ocean Acoustic projects.

PUBLICATIONS

Analysis of Potential Acoustic Impacts for the BEAMER Underwater Observatory Experiment, Technical Report, August 2005.

Acoustic Impact Analysis for the Makai Experiment, Technical Report, August 2005.

Additional Information on the Makai Experiment, Technical Report, September 2005.

Acoustic Impacts Analysis for the SW-06 Experiment, Technical Report, June 2006.